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EXAMINER

BRANT, DMITRY

ART UNIT	PAPER NUMBER
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2655

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9

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/817,475

Applicant(s)

RAMAN ET AL.

Examiner

Dmitry Brant

Art Unit

2655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 2/24/04.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Response to Arguments***

1. Applicant's arguments with respect to claims 1-25 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-9, 12-18, 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ashby, III et al. (5,852,803) in view of Walters et al. (6,453,281).

The US patent of Ashby et al. discloses a computer-based system and thus, necessarily includes the apparatus, the method of operation and the article of manufacture of this system. Consequently, rejections for claims 1-11, 12-20, 21-24 and 25 have been combined, as they all address the same subject matter. Where appropriate, all interrelated limitations from these claims have been listed in the same location.

Referring to claims 1, 12, 21, 25, Ashby, III et al. disclose:

- inputting at least a portion of the electronically-readable identifier marked on an item (bar code and bar-code reader [1<sup>st</sup> device], col.2, ln.1-5; col.5, ln.31-33 and col.9, ln.31-36);
- inputting from a user a spoken utterance that corresponds to the item (voice information and microphone[2<sup>nd</sup> device], col.1, ln.63 - col.2, ln.1 and col.5, ln.33-35);
- associating the electronically-readable identifier (bar-code label) input from the item with the spoken utterance input from the user on storage device (81, FIG. 11) by use of processor (78, FIG. 11) (See also col.3, ln.36-39; col.5, ln. 18-34 and col.9, ln.60-65);
- and outputting the spoken utterance when the electronically-readable identifier associated with the spoken utterance is subsequently inputted (speaker, 36, FIG. 11 and col.3, ln.36-52 and col.9, ln.31-47).

Ashby, III et al, do not disclose

- *“converting the spoken utterance input by the user to text” and*
- *associating electronically-readable identifier and the corresponding text.*

Note: While Ashby et al. suggest the use of voice recordings instead of text data (Col. 9, lines 48-57), Ashby et al.'s do not explicitly teach away from the converting user-spoken utterances to text. Ashby et al. only suggest that using voice recordings instead of synthesized data would improve user's experience. However, from the functional perspective, Ashby et al.'s system would achieve the same goals of

delivering audible information to the user if it were to synthesize this information from the text. In addition, as it would have been obvious to one of the ordinary skill in the art, Ashby et al. 's system suffers from the inefficiencies associated with a storage and maintenance of a large number of voice recordings.

Walters et al. teach converting user's voice input to text (Col. 9, lines 41-50) for the purpose of recording user's voice records. As it is well-known in the art, text version of a document requires far less storage space than the voice-recorded version of the same document. In addition, it is notoriously known in the art of software engineering that management of text data (database storing, lookups, searches, etc.) is much simpler than the similar management of binary data, such as voice recordings (Col. 1, lines 42-55). Walter et al.'s system thus solves the problem of manipulation and maintenance of large number of voice records - the problems also associated with Ashby et al.'s system, since Ashby's system operates with a large number of voice recordings.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Ashby, III et al. as taught by Walters et al. to convert voice utterances to text in order to simplify the process of storing, maintaining and retrieving records (either synthesized or previously recorded) associated with the electronically-readable identifiers (Col. 1, lines 42-55)

In addition, examiner takes the official notice that it is extremely well-known in the art of software engineering to perform searches of the databases using text data,

since it is the fastest and most efficient way which is currently available in the art of organizing and searching the databases.

As a result, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Ashby, III et al. to associate electronically-readable identifier and the corresponding text data acquired from Walters et al. in order to improve the efficiency of the system by simplifying the lookups and searches of records associated with the electronically-readable identifiers, as well-known in the art.

Referring to claims 2, 13, Ashby, III et al. further disclose the method, wherein the electronically-readable identifier marked on the item is a universal product code (col.9, ln.31-34).

Referring to claims 3, 14, Ashby, III et al. further disclose the method of reading the universal product code from each item with a barcode reader (col.9, ln.32-36; col.10, ln.21-31 and Fig.11, element #80).

Referring to claims 4, 15, Ashby, III et al. further disclose the method, wherein the associating step comprises storing the spoken utterance corresponding to each item using the universal product code read by the barcode reader for each item as an index (memory, col.9, ln.31-47 and col.11, ln.1-3).

Referring to claims 5, 16, Ashby, III et al. further disclose the method, wherein the outputting step comprises: subsequently reading the universal product code from an item with the barcode reader (col.9, ln.31-34); searching stored spoken utterances using the universal product code as an index (col.10, ln.66 - col.11, ln.3) ; and playing back the spoken utterance that is found in the search to the user (col.11, ln.3-7).

Referring to claim 7, Ashby, III et al. do not disclose the step of converting spoken utterance to text by a speech recognition system.

However, Walters et al. teach using speech recognition system to convert spoken utterance to text. (154, Fig. 4 and Col. 9, lines 25-40)

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Ashby, III et al. as taught by Walters et al. to convert the spoken utterance to text by using a speech recognition system in order simplify the process of storing, maintaining and retrieving records (either synthesized or previously recorded) associated with the electronically-readable identifiers (Col. 1, lines 42-55)

Referring to claims 8-9, 18, 23, Ashby, III et al. do not disclose converting text back to speech when the system determines that electronically-readable identifier input from the item is associated with the corresponding text.

However, Ashby et al. do teach outputting voice recordings when an associated electronic code is entered in the system (col.3, ln.36-52 and col.9, ln.31-47). As it has been explained in the rejection for claim 1, it would have been obvious to one of the ordinary skill in the art to modify Ashby et al. to convert voice utterances to text and associate this text with the corresponding electronic labels for the easier storage and improved operational efficiency.

In addition, Walters et al. teach converting text back to speech using text-to-speech system for the playback of stored records (156, FIG. 4 and Col. 10, lines 18-27)

As a result, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Ashby, III et al. as taught by Walters et al. to play back stored records associated with the electronic identifiers using text-to-speech conversion, in order simplify the process of retrieving data records originally stored as text and associated with the electronically-readable identifiers (Col. 1, lines 42-55), particularly because, as it is well-known, text recordings do not require as much storage capacity as binary voice recordings. In addition, outputting audio data allows users to browse/listen to records by audio means only, hence, improving the overall user experience for people incapable or disinclined to read product labels (Ashby et al., Col. 1, lines 42-51)

Referring to claim 24, Ashby, III et al. further disclose apparatus configured to be user-portable (fig. 11, top element #74).



4. Claims 10-11, 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ashby, III et al. in view of Walters et al., and further in view of Jong (6,173,250)

As per claims 10, 19, neither Ashby et al. nor Walters et al. teach using a remote speech-to-text (speech recognition) system.

However, neither Ashby et al. nor Walter et al. explicitly teach against connecting to a network. For example, Walter et al. teaches connecting to a remote database (Col. 28, lines 40-45), while Ashby et al. also teach using a terminal workstation (74, FIG. 11) which would suggest a network connection in the modern days (at least after 1996, while Ashby et al's patent has been filed in 1992, when network connectivity was not as prevalent)

Jong teach a method, wherein the speech-to-text conversion is performed on a computing device (speech recognition device, fig.2, element #203) remotely located with respect to a computing system (STT system, col.2, ln.55-56) performing the other steps (col.2, ln.65; col.5, ln.13-33, fig.1 shows systems 100 and 110. System 100 performs speech-to-text conversion and system 110 performs text-to-speech conversion. The two systems are remotely located, and they are connected by a transmitting network).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Ashby, III et al. and Walters et al. as taught by Jong to have speech-to-text conversion performed on a computing

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device remotely located with respect to a computing system performing the other steps, in order to provide an efficient centralized way to transmit speech data and to facilitate speech processing of data in the speech recognition system of Walters et al. because, as it is extremely well-known in the art, distributed speech recognition systems allow to offload heavy speech processing to dedicated (remote) computers, thus reducing the computational load on the local machines (for example, see patent # 6,487,534).

Referring to claims 11, 20, Ashby, III et al. disclose the computer device archives electronically-readable identifiers and associated spoken utterance (col.10, ln.66 -col.11, ln.7).

Ashby et al. do not specifically disclose a computing device that performs the speech-to-text conversion.

However, both Walters et al. and Jong teach a computing device that performs a speech-to-text conversion (Walters et al: 156, FIG. 4 and Col. 10, lines 18-27) and (Jong: Fig. 3.)

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Ashby, III et al. to have a computing device that performs the speech-to-text conversion archiving electronic identifiers and spoken utterances, as taught by either Walters et al. or Jong, in order to transmit and restore data to a remote system, for the well-known reasons of backing-up data.

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**Conclusion**

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Moore (5,983,182) teaches a method of producing audible labels in multiple languages, including text-to-speech conversion.

Thelen et al (6,487,534) teaches a distributed voice-recognition system for offloading speech heavy processing from client devices.


6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dmitry Brant whose telephone number is (703) 305-8954. The examiner can normally be reached on Mon. - Fri. (8:30am - 5pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Talivaldis Ivars Smits can be reached on (703) 306-3011. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Tech Center 2600 receptionist whose telephone number is (703) 305- 4700.

DB

8/12/04

  
W. R. YOUNG  
PRIMARY EXAMINER